

REMARKS

Claims 1-15 are currently pending in this application. Claims 1, 6 and 14 have been amended herein. Applicants submit that no new matter has been entered by way of this amendment. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

Applicants thank the Examiner for indication that claims 9-15 are in condition for allowance and that claims 4 and 5 contain allowable subject matter but have been objected to, but would be allowable if rewritten to incorporate the limitations of any base claims or intervening dependent claims.

Claim Objections

Claims 6 and 14 have been objected to due to informalities in the claim language. Applicants submit that the amendments to claims 6 and 14 remedy the informalities and therefore overcome the claim objections.

Claim Rejections – 35 U.S.C. §§ 102/103

1. Claims 1, 3 and 6-8 have been rejected under 35 U.S.C. § 102(b), as being anticipated by Turrell, et al., US Patent No. 4,934,908 (“Turrell”). Claim 2 has been rejected under 35 U.S.C. § 103(a), as being unpatentable over Turrell. Applicants respectfully submit that the pending claims are patentably distinct from the cited reference.

Amended independent claim 1 recites, *inter alia*:

A vacuum pump comprising:
a coupling member for coupling the first housing and the second housing to each other, wherein the coupling member is directly coupled to a portion of the first housing that surrounds a last stage of

the first pump mechanism such that transmission of heat from the last stage of the first pump mechanism to the booster pump is permitted via the coupling member.

Applicants submit that the Turrell patent does not teach or suggest the elements recited in amended independent claim 1.

In contrast to the elements recited in amended independent claim 1, Turrell discloses that vapor evolved from lubricants in the housing 10 and 12 of the booster pump 2 is introduced into the pump chamber 28 or 30 of the pump 20 via the conduit 54 in order to reduce the level of contamination (the vapor evolved from lubricants) in the chamber 6 of the booster pump 2. (See, Turrell, col. 4, lns. 4-28). The Examiner alleges that the conduit 54 corresponds to the coupling member of the present invention (See, Office Action, page 3, ¶ 2). However, the conduit 54 of Turrell's pump system is not configured to transmit the heat generated by the last stage of the pump 20 (first pump mechanism) to the booster pump 2.

Furthermore, the conduit 54 of Turrell's pump system seems to be relatively thin. As disclosed, the conduit 54 extends from the upper surface of the booster pump 2 to the upper surface of the pump 20 which is located under the booster pump 2. In other words, the conduit 54 is relatively long. Therefore, as such the conduit 54 does not serve to transmit heat between pumps 2 and 20.

In Turrell, the exhaust port (not shown) of the booster pump 2 is connected to the inlet port 22, which has a relatively large diameter for pump 20 (See, col. 3, lines 40-44). It appears that the exhaust and the inlet port 22 are connected to each other between the facing surfaces of the pumps 2, 20. The inlet port 22 is provided in the vicinity of the first stage of the pump 20 (first pump mechanism). That is, the inlet port 22

is spaced away from the last stage of the pump 20. Therefore, in Terrell's pump system, the heat generated by the first stage of the pump 20 may be transmitted to the booster pump 2, but the heat generated by the last stage of the pump 20 would not be transmitted to the booster pump 2.

Accordingly, Applicants respectfully submit that Turrell's pumps 2 and 20 and conduit 54 do not anticipate amended independent claim 1. More specifically, Applicants submit Turrell does not disclose, teach or suggest a coupling member that is directly coupled to a portion of the first housing that surrounds a last stage of the first pump mechanism such that transmission of heat from the last stage of the first pump mechanism to the booster pump is permitted via the coupling member. In the claimed invention, the heat generated by the last stage of the first pump mechanism can efficiently be transmitted to the booster pump (61), thereby effectively raising the temperature in the booster pump (61). This make it possible to more reliably prevent the solidification of a reaction product in the booster pump (61) and in turn, prevents a reduction in vacuum pump performance that would result from the deposition of a reaction product in the gas passage (See, specification, page 10, lines 25-33).

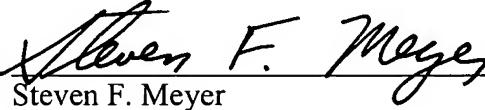
Therefore, Applicants respectfully submit that amended independent 1 is patentably distinct from the Turrell patent for at least this reason. Furthermore, Applicants respectfully submit that claims 2, 3 and 6-8, which depend on amended independent claim 1, are also patentably distinct from the Turrell reference for at least a similar reason. Therefore, Applicants request withdrawal of these grounds of rejections.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

Respectfully submitted,
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